

IMPROVING SALES PERFORMANCE:
A CASE STUDY IN A
KOREAN BASED ADHESIVE COMPANY

LOW CHIE CHONG

Research report in partial fulfilment of the requirements for the
Degree of Master of Business Administration (MBA-SSME)

UNIVERSITI SAINS MALAYSIA

2014

Acknowledgement

I am using this opportunity to express my gratitude to everyone who supported me throughout the course of this MBA SSME project. I am thankful for their aspiring guidance, invaluable constructive criticism and friendly advice during the project work. I am sincerely grateful to many individuals and organizations for sharing their truthful and clear views on a number of issues related to the project.

I am highly indebted to Dr. Tan Cheng Ling for her guidance and constant supervision as well as for providing necessary information regarding the project.

I would like to express my gratitude towards my parents and my wife for their kind encouragement which helps me in the completion of this project.

Thank you,

Low Chie Chong

Table of Contents

	Page
Acknowledgement.....	ii
Table of Contents	iii
List of Tables.....	v
List of Figures	vi
Abbreviation Definition	vii
List of Appendices.....	x
Abstrak (Malay)	xi
Abstract	xii
Executive Summary	xiii
1.0 Introduction	1
1.1 Background of the Case Issue	2
2.0 Industry Background.....	8
2.1 Adhesive Types, Functions, Characteristics and Applications	8
2.2 Electrical & Electronics sector in Malaysia	10
3.0 Company Background.....	17
3.1 Philosophy for Best Chemical	18
3.2 Vision for Best Chemical	18
3.3 Mission for Best Chemical	19
3.4 Business structures and Organization chart	19
3.5 Communication Efficiency of Strategic Alliances	22
4.0 Details of the Case Issue	24
5.0 Case Analysis	29
5.1 PESTLE – Outright Environment Scanning	30
5.1.1 Political	32
5.1.2 Economical	33
5.1.3 Social-Culture	37
5.1.4 Technological.....	39
5.1.5 Legal	42
5.1.6 Environmental.....	44

5.2 Fishbone Diagram.....	46
5.3 5-Whys Analysis.....	48
5.4 SWOT Analysis.....	52
5.4.1 Strength.....	55
5.4.2 Weakness	56
5.4.3 Opportunity.....	58
5.4.4 Threat	61
5.5 TOWS Analysis.....	63
5.5.1 The S-O Strategy	64
5.5.2 The S-T Strategy.....	66
5.5.3 The W-O Strategy	67
5.5.4 The W-T Strategy	68
6.0 Discussion and Recommendation	70
6.1 Short to Medium Term Strategy.....	70
6.2 Medium to Long Term Strategy	73
7.0 Conclusion	75
8.0 Reference	78
9.0 Appendix.....	84
9.1 Research Questions and Data Linkage.....	84
9.2 List of Personnel Have Been Interviewed.....	86
9.3 List of Documents Have Been Reviewed	86
9.4 List of Interview Questions to Provide Insight for Research Questions	87
9.5 Interviewed Data and/ Report.....	91

List of Tables

	Page
Table 2.1: Types of Adhesive and its characteristics	7
Table 2.2: The benefits of adhesive over typical methods of bonding	9
Table 2.3: The four sub-sectors of E&E industry in Malaysia	11
Table 2.4: The application of adhesive in E&E industry	13
Table 2.5: Adhesive Market Size and Main Players	15
Table 3.1: History of Company	17
Table 4.1: Malaysia and Korea Sales Case and Closing Rate Comparison	26
Table 5.1: Proposed Tools for Case Analysis	27
Table 5.2: The 5-Whys for Poor Sales Performance in Best Chemical	48
Table 5.3: Identified Primary Root Causes	50
Table 5.4: Summary of the SWOT Analysis on Best Chemical	52
Table 5.5: Process of Corporate Strategy and TOWS Analysis	62
Table 6.1: Adhesive Market Study	69

List of Figures

	Page
Figure 1.1: Malaysia Actual Sales Case and Closing Rate vs Target	4
Figure 1.2: Sales Performance % vs Target %	4
Figure 1.3: The typical process in sale pipeline	5
Figure 2.1: Malaysia's Top 10 Major Export Products in 2013	10
Figure 2.2: The supply chain in E&E ecosystem	13
Figure 3.1: Best Chemical Organization Chart	19
Figure 3.2: Best Chemical Distribution Channel in Korea and South East Asia	21
Figure 3.3: Internal Communication between Best Chemical and Distributors	22
Figure 4.1: Best Chemical Sales Performance in Korea from 2009 – 2013	24
Figure 5.1: Macro Environment Forces (PESTLE) Affecting a Firm	29
Figure 5.2: Fishbone Diagram for Highlighted Issue	46

Abbreviation Definition

AEC 2015 – Originates from the ASEAN Vision 2020, which was adopted in 1997 on the 30th anniversary of ASEAN. It aspires to create a single market and production base with a free flow of goods, services, investments, capital and skilled labour by 2020. However, in 2007, the Cebu Declaration sped up this establishment to the year 2015.

ASEAN - Association of Southeast Asian Nations is a political and economic organisation of ten countries located in Southeast Asia, which was formed on 8 August 1967 by Indonesia, Malaysia, Philippines, Singapore and Thailand. Later, membership has expanded to include Brunei, Cambodia, Laos, Myanmar and Vietnam.

AVL - Approved vendor list is a listing of various types of suppliers that a company has agreed meets its standards in terms of quality and price, and has authorized purchasing department to place orders with when and as required.

BOM - Bill of Materials is a list of the raw materials, sub-assemblies, intermediate assemblies, sub-components, parts and the quantities needed to manufacture an end product.

EMS - Electronic Manufacturing Services is a term used for companies that design, test, manufacture, distribute, and provide return/ repair services for electronic

components and assemblies for Original Equipment Manufacturers (OEMs) (Liemt, 2007).

EPP - Entry Point Projects are projects developed to drive the performance of the National Key Economic Areas (NKEAs) to a higher level. These EPPs are usually high impact projects covering a particular area and matched with specific ideas and actions, to spur the growth of Digital Malaysia within its individually prescribed dimensions. EPPs are categorised into five dimensions; Economic, Social, Governance, Technological and Environmental.

ETP - The Economic Transformation Program is an initiative by the Malaysian government to turn Malaysia into a high income economy by the year of 2020. It is managed by the Performance Management and Delivery Unit (PEMANDU), an agency under the Prime Minister Department of Malaysia.

FiT - Feed in Tariff is a policy or program created to advance or increase investments in renewable energy sources. It typically offers long term agreements to renewable energy producers based on their particular pricing and generation costs for each technology such as wind power, solar PV, and tidal power.

GNI - The Gross national income is the total domestic and foreign output claimed by residents of a country, consisting of gross domestic product (GDP) plus factor incomes earned by foreign residents, minus income earned in the domestic economy by non-residents.

HDD - A hard disk drive is a data storage device used for storing and retrieving digital information using rapidly rotating disks (platters) coated with magnetic material. An HDD retains its data even when powered off.

LED – Light emitting diode is a semiconductor device that emits visible light when an electric current passes through it.

MIC - Middle income countries refer to countries which are halfway to becoming advanced economies with a per-capita gross national income in 2012 between \$1,036 and \$12,615. This is one of the income categories that the World Bank uses to classify economies for operational and analytical purposes.

OEM - Original Equipment Manufacturers refers to the company whose products are used as components in another company's product. The OEM will generally work closely with the company that sells the finished product (often called a "value-added reseller") and customize the designs based on the VAR's needs.

PCB - Printed circuit board is a non-conductive material with conductive lines printed or etched. Electronic components are mounted on the board and the traces connect the components together to form a working circuit or assembly.

SME - According to Bank Negara Malaysia, Small Medium Enterprises refer to manufacturing sector, sales turnover < RM50 million OR full-time employees < 200 workers; services and other sectors, sales turnover < RM20 million OR full-time employees < 75 workers.

List of Appendices

	Page
Appendix 1 2012-2013 Malaysia Total Export	95

Abstrak (Malay)

Kajian kes ini adalah untuk meneroka isu-isu yang berkait dengan prestasi jualan Best Chemical di Malaysia. Kaedah analisis adalah kompleks kerana ia bukan semata-mata memberi tumpuan kepada tahap strategi korporat, tetapi juga melibatkan budaya dan gaya perniagaan Korea. Best Chemical Co, Ltd merupakan sebuah syarikat Korea yang ditubuhkan pada tahun 2007, ia membekal bahan pelekat kepada industri semikonduktor dan elektronik. Pada tahun 2009, mereka melantik Advance Resources Sdn. Bhd. sebagai pengedar mereka. Pencapaian perniagaan global Best Chemical kurang memuaskan untuk empat tahun yang lalu. Malah, pengedar mereka tidak mampu menghasilkan 72 kes peluang jualan dan kadar penutup jualan juga jauh di bawah 20% daripada sasaran yang ditetapkan oleh Best Chemical.

Analisis PESTLE digunakan untuk memahami faktor persekitaran. Analisis Fishbone Diagram dan 5-Whys digunakan untuk mendapatkan punca secara mendalam, diikuti oleh Analisis SWOT dan TOWS, untuk penggubalan strategi. Hasil daripada kes analisis menunjukkan bahawa Best Chemical tidak mempunyai rangkaian produk yang sesuai untuk sektor E & E di Malaysia, dan pelanggan tidak mengiktiraf jenama Best Chemical. Cadangan daripada kajian kes ini termasuk strategi jangka pendek dan jangka panjang seperti, I) Perdagangan bahan pelekat pihak ketiga; II) Meningkatkan portfolio produk; III) Mempercepatkan R & D pada produk baru; IV) Kerjasama dengan institusi untuk pembangunan produk, dll. Sebaliknya, Best Chemical membuat keputusan bergantung kepada maklumat pasaran daripada pengedar mereka.

Abstract

This case study is to explore the business issues that concerns Best Chemical's sales performance in Malaysia. The analysis methods are complex because they are not merely focused on the corporate strategy level, but also involve Korea's culture and preferred business style. Established in 2007, Best Chemical Co., Ltd. is a Korean based adhesive company servicing semiconductor and electronics industry. In 2009, they appointed Advance Resources Sdn. Bhd. as their distributor. Their global business portrayed limited achievement for the past four years. In fact, their distributor was not able to achieve the target of 72 sales cases and the sales closing rate was also far below 20% of the closing rate target set by Best Chemical.

PESTLE Analysis was used to screen through external environmental factors. The Fishbone Diagram and 5-Why Analysis tools was used to get in-depth to the root cause, followed by SWOT and TOWS Analysis for strategy formulation. The analysis results show that Best Chemical lacks of a suitable product range for the E&E sector in Malaysia. In additions, customers do not recognize Best Chemical's brand name.

Recommendations from this case study include short and long term strategies such as I) Trading of third party adhesives; II) To increase product portfolio; III) To expedite R&D on new products, IV) Collaboration with institutions for product development, ect. On the other hand, Best Chemical relies on their distributors to provide them reliable market information for the management's decision making.

Executive Summary

Best Chemical Co., Ltd. is a Korean based adhesive company, established in 2007 and mainly focuses on R&D and manufacturing of various types of adhesives for the semiconductor and electronics industry. They aim to be a global leading chemical company and to excel in adhesive technology to support customers by delivering cost effective and reliable solutions in an ethical manner.

In their home country, they established a few distributors to represent them in marketing adhesives to major Compact Camera Module (CCM) manufacturers. This strategic partnership is proven workable because the company's revenue has grown steadily from USD 1.4 million in 2009 to USD 4.1 million in 2013, with an average 30% growth rate annually.

By sticking to what they know best and what has already been proven to be successful in Seoul, Best Chemical has decided to implement the "Growth by Duplication" strategy. This is done by taking the present business model and duplicating it in other Southeast Asia countries. In 2011, this "cookie-cutter" approach was first implemented in Malaysia because of their matured E&E ecosystem, in conjunction with a winning combination of other pull factors, such as a stable politics, good economic policies, top-notch infrastructures and skilled knowledgeable workforce that Malaysia has developed for the past four decades.

However, the business in Malaysia did not work in their favour since 2011. Their distributor Advance Resources was unable to achieve the 72 sales case target set by

Seoul, not to mention their sales closing rate is also far below 20% of the target. Take the easy way out, terminate existing distributor could be a simple solution. However, the Korean emphasize on “inhwa” (meaning harmony). They believe that a person owes total loyalty to parents and authority figures, notably rulers, elders, and organizational leaders (Lee, 2012). In this context, it is related to the loyalty of Best Chemical to their business partner.

To identify the issues faced by Best Chemical in a complex adhesive market, a case study was carried out by interviewing the key person involved in this scenario, followed by the reviews of relevant company reports, industry data, journals, articles and observation. Detailed analysis has been conducted through a selection of analysis techniques. To conduct an external environment scan, PESTLE Analysis was used to screen through factors relating to Politics, Economic, Social, Technology, Environmental and Legislative. The Fishbone Diagram and 5-Whys analysis were used to identify the possible causes and their connection to the problem statement. SWOT and TOWS analysis were used to determine the internal and external factors that impact the business and subsequently provide useful insights to the short and long term business strategy formulation.

The ultimate goal of this case study is to discover the key issues faced by Best Chemical, and propose practical recommendations to enable them to compete effectively in the highly competitive adhesive industry. The proposals comprised of short - medium term and medium – long term strategies.

Short – medium term strategies highlight the importance to gain a comprehensive understanding of the Malaysian E&E market, and to identify the existing competitors, market size, and available opportunities for E&E assembly and the semiconductor industry. The first step is always the most important one. Best Chemical should leverage on their network and seize opportunities in Korean companies which have already invested in Malaysia because their business culture treasures close relationships. For a fast track opportunity, Best Chemical can purchase certain adhesive materials in bulk, repack, label with their own brand and sell it to ready customers. To improve the respond time, a small laboratory can be setup to support product comparison, testing and evaluation in case customers are willing to provide the competitor's sample. This will curb communication issues due geographical distance. Two heads are better than one. Advance Resources may consider recruiting a sub-distributor for the sectors that they are unfamiliar with or if they do not have strong networking with a certain company.

Medium – long term collaboration with the academia can solve the shortage of adhesive specialists in R&D. Best Chemical can work with local universities and benefit from their facilities, laboratories and intellectual. Malaysia is moving up the value chain to produce higher value-added products and services. Best Chemical should also shift their focus from a purely CCM application to solar solutions, green energy, automotive, and medical fields because these are the sectors gaining strong momentum under the Economic Transformation Programme in the next decade.

1.0 Introduction

This case study is about an adhesive manufacturer from Korea – Best Chemical Co., Ltd., who endures poor business performance in Malaysia since 2011. They assigned a local distributor to help them market their adhesive products. However, the underperformance has drawn the attention of the top management, and the headquarters in Seoul has called all those in charge for an immediate meeting to sort out the root cause and propose solutions to overcome this issue.

It is ten o'clock in the morning at Bukit Jambul Golf Club, Penang on 27 Feb 2014. There was an annual meeting for the top management of Best Chemical Co., Ltd. to meet up with the local distributor Advance Resources Sdn. Bhd. to understand their annual sales performance. Mr. Anthony (the founder of Advance Resources) took up the Malaysia distributorship since year 2011. Mr. Martini (the founder of Best Chemical) was curious about the data presented by Mr. Sean because the overall sales performance was far below his expectations. He needs to understand the reason of poor sales performance by this local distributor.

Mr. Sean is the Technical Manager from Best Chemical who is based in Malaysia to oversee their adhesive business in Malaysia, Thailand, and Vietnam. His role includes but not limited to solving technical related issues, managing sales performance, providing training to distributor and conducting relevant market study, in order to report the actual market scenario to the Korean management.

Best Chemical trusts that Mr. Anthony and his sales team will give their best to promote the adhesive products and penetrate the market within the shortest time frame possible. After three years of promoting this Korean brand adhesive, Mr. Anthony is rather sure that the local customers are favourable towards Korean-brand products. The Korean wave created by South Korean films, TV dramas, and also other technology devices and automotive sectors, helps bilateral economic cooperation in various fields, such as cultural content and information technology industries (Cho, 2010). As a result, the Korean brands become well accepted by Malaysians.

Best Chemical adhesives are designed for semiconductor and electronics application. These two sectors contribute 33% of the overall Malaysia export (Appendix: 2012-2013 Malaysia Electrical & Electronic Export). Mr. Anthony is confident that there is plenty of room for growth in the semiconductor and electronics market in Malaysia, although he faces competition from other giant adhesive-suppliers such as Henkel, 3M, Three Bond, Dow Corning, Dymax, DELO, and other smaller players in the market.

1.1 Background of the Case Issue

Best Chemical Co., Ltd. mainly focuses on R&D and manufacturing of various types of adhesives for the semiconductor and electronics industry. They have appointed Advance Resources Sdn. Bhd., with their head office located in Kuala Lumpur, as their marketing, distribution, and logistic strategic partner in Malaysia.

Mr. Anthony covers the central and southern parts of Malaysia. He has another sales executive stationed in Penang, who is responsible for the northern region sales.

Similar to other industrial sales procedures, it is necessary to assess the customer's needs first before proposing a solution. Mr. Anthony and his sales team visit potential customers in search of business opportunities. The customers will then go through the proposal and request for adhesive samples for a product evaluation. The whole evaluation includes preliminary product-properties checking, followed by the application on actual test units, reliability tests and finally obtaining the customer's approval. At the same time, regular communication with Best Chemical is crucial to ensure optimum product quality and support for the potential customer. During the evaluation process, it could sometimes take up to six months or more just to qualify one product for a single application.

The head office of Best Chemical is located in Seoul. They have set a clear target for their distributors with a minimum of 72 generated sales opportunities per year and with a conservative sales closing rate at 20% as illustrated in Figure 1.1 and Figure 1.2. They are currently looking forward to Advance Resources to provide them a justification report on the far below expectation of the sales performance, which is only average 20 sales opportunities per year since year 2011, means only 28% of the sales objective (72 sales cases). However, despite of poor sales performance, Advance Resources has once achieve 17.6% closing rate in 2013. Mr. Martini wonders what has caused the inconsistency performance of their Malaysia sole distributor. He believes that if their distributors work hard enough, the

chances for them to capture a portion of the adhesive market opportunities is very positive. This is because Malaysia’s electrical and electronics exports amounted to a promising figure of US\$72 billion in year 2013 (Appendix: 2012-2013 Malaysia Total Export).

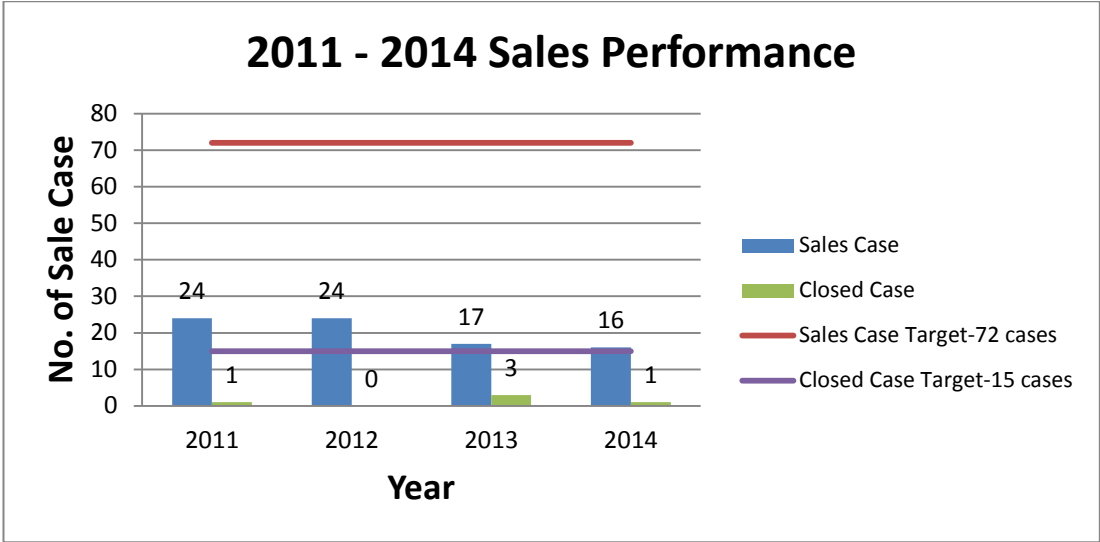


Figure 1.1: Malaysia Actual Sales Case and Closing Rate vs Target

Source: Advance Resources Internal Data

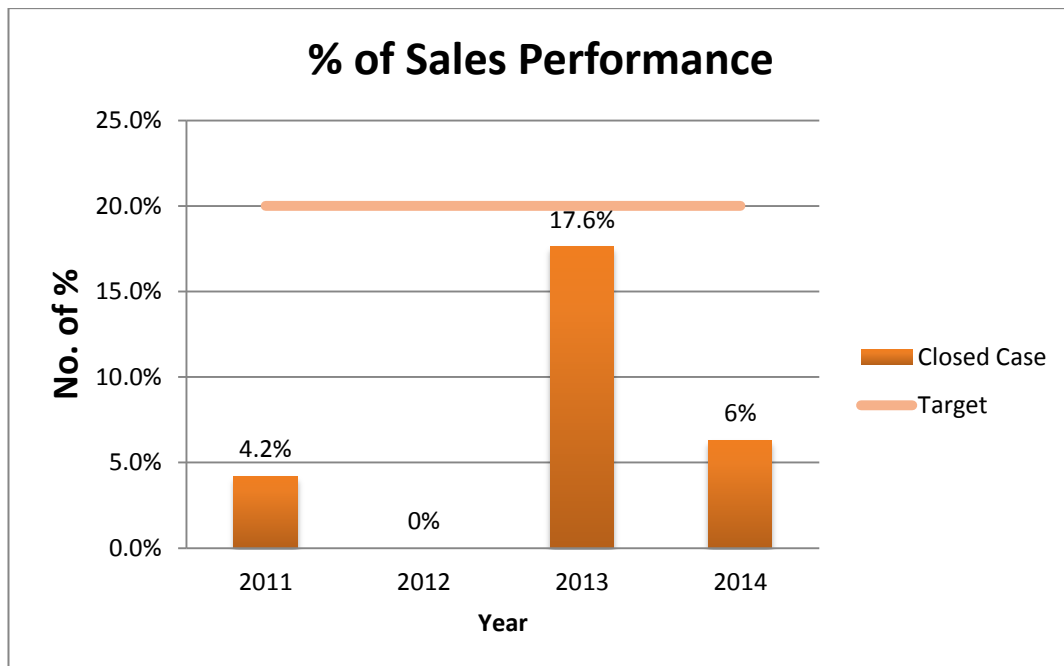


Figure 1.2: Sales Performance % vs Target %

Source: Advance Resources Internal Data

As a rule of thumb in business development, one should have five times more active opportunities in the sales pipeline than in the actual sales goal. A sales pipeline describes an approach to selling, founded on the underlying principles of the sales process. It describes the individual steps salespeople take from initial contact with a potential customer, or prospect, to qualifying that prospect into a sales lead, and further validating that lead into a sales opportunity followed through the different stages until closed (Czarnecki, 2014). All sales opportunities arranged along the sales process are what the sales pipeline represents as illustrated in Figure 1.3.

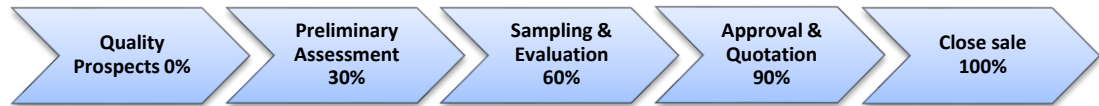


Figure 1.3: The typical process in sale pipeline

Source: Advance Resources Internal Data

The company's health can be diagnosed through their sales pipeline management. It can literally show the company's performance and the amount of business that Advance Resources attempts to close in a given month, quarter, or year, aligned with Best Chemical's goal and sales performance expectations. Mr. Sean understands that the Korean top management does not only seek for sales justification, but also look forward to his strategic planning and solution to the poor sales performance and closing rate. The foresight of Best Chemical is very clear; as the Korean market growth is limited, they foresee the sales expansion to the South East Asia (SEA) countries as a promising alternative in sustaining business. The past three years in SEA was a learning curve and they have now reached a stage where it is vital to study the root causes and come up with an improvement plan to move forward. Best Chemical has been investing in manpower, product knowledge, sample-delivery costs, and other laboratory tests as requested by customers. They are now expecting to receive the return of investment. However, the low sales case and closing rate prove otherwise. These are the most important issues that have to be overcome. Mr. Sean takes a sip of coffee and lays back. He looks up at the ceiling with a couple of questions in his mind.

1. What are the roots causes of the poor sales performance?
2. How is the sales performance of Best Chemical as compared to other branches located in various regions and what are the performance gaps?
3. How to improve the current sales performance level to achieve the sales target?
4. What are the challenges faced by Best Chemical to close the sales case?
5. What are the short term and long term action that need to improve the sales performance?

2.0 Industry Background:

2.1 Adhesive Types, Functions, Characteristics and Applications

The term "adhesive" may be used interchangeably with glue, cement, mucilage, or paste (James, 2014). It is commonly used to bond and to hold two materials together and resist separation. Technically it refers to the forming of a cohesive in terms of mechanical, chemical, and physical perspective. A typical hardware shop or home Do-It-Yourself (DIY) store carries many different adhesives for various applications. Table 2.1 illustrates some of the commonly use adhesive in our daily life. They are classified depending on their chemical content and characteristics, and are based on their common application. (Refer to Table 2.1).

Table 2.1: Types of Adhesive and its characteristics

Chemistries	Common Uses
Acrylates	Acrylics are relatively fast curing and offer high strength and toughness, more flexible than common epoxies. Able to bond most materials especially plastics and metals.
Anaerobic	Anaerobic adhesives polymerize when in contact with metal, and when the air is excluded, also known as "locking compounds", to keep nuts tight on bolts, being used to secure, seal and retain turned, threaded, or similarly close fitting parts.
Butyl rubber	Additive for hot-melt adhesives, window sealants, and pressure-sensitive adhesives.
Casein	Labels on beer bottles that do not come off in ice water yet are recyclable.

Cyanoacrylates	Cyanoacrylates cure through reaction with moisture and use for bonding of common substrates (e.g., dishes, toys, small plastic parts and rubber), commonly known as super glue.
Epoxy	Epoxies provide excellent adhesion, chemical and heat resistance, with electrical insulating properties. Available in one part, two part and film form and produce extremely strong bonds with most materials especially plastics and metals.
Natural rubber	Self-adhesive envelopes and other pressure-sensitive adhesives; that bond to substrates on contact (like tapes).
Polyurethanes	Polyurethanes are usually fast curing, provides strong resilient joints which are impact resistant and have better low temperature strength. Useful for bonding glass fibre reinforced plastics, bonding soles to the bodies of shoes; also used in food packaging.
Polyimides	Polyimides are superior with regard to long term strength retention at elevated temperatures. Commonly used in the electronics industry for flexible cables, as an insulating film on magnet wire and for medical tubing.
Silicone	Silicones are known for its flexibility and high temperature resistance. Often used as bath and shower sealants; also for car applications, such as oil pans and head gaskets.

Source: <http://www.azom.com/>

What are the advantages of using adhesive for bonding two substrates together? There are various ways of creating bonding, such as welding, riveting, and screwing with bolts and nuts. Below Table 2.2 explains why adhesives are widely used in our daily life to join two substrates together. Due to its unique features, the adhesive application becomes one of the most critical solutions to various sectors in Malaysia, especially the electrical & electronics industry.

Table 2.2: The benefits of adhesive over typical methods of bonding, such as welding, riveting, and screwing.

I. Adhesive allows bonding of different substrates such as glass, plastic, metals, ceramics and etc., with different geometries, sizes and composition. This gives advantages in product design and its aesthetics.

II. Reduce the number of components used such as screws, nuts, washers, rivets, etc will ultimately reduce the product's weight and make it smaller, lighter and thinner.

III. The use of adhesive as bonding material prevents the deformation of the substrates, eliminates metal grinding processes, reduces the manufacturing cost, increases reliability and product life cycle, and enhances the aesthetics of the products.

VI. Apart from bonding, adhesive provides sealing function and protection against corrosion.

V. The adhesive is in liquid form, hence it provides homogeneous distribution of tension throughout substrates, prevents stress concentration which may lead to the fracture of the material bonding.

VI. Special adhesive is designed for electrical conductivity or electrical isolation, widely used in electrical and electronic sectors.

Source: www.adhesiveandglue.com

2.2 Electrical & Electronics sector in Malaysia

The electrical & electronics (E&E) industry is the leading sector in Malaysia, contributing 32.9 per cent of the country's total exports in 2013 amounting to RM 237 Billion (Refer to Figure 2.1).

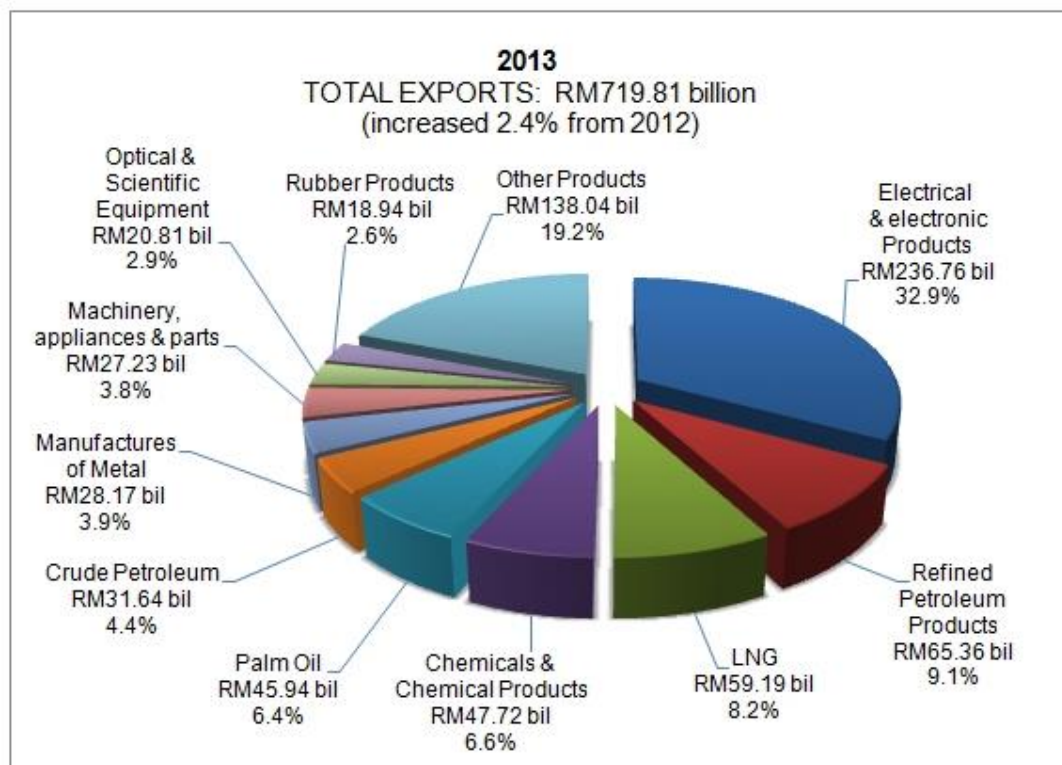


Figure 2.1: Malaysia's Top 10 Major Export Products in 2013

Source: <http://www.matrade.gov.my/>

The E&E industry in Malaysia can be categorised into four sub-sectors as illustrated in Table 2.3. The semiconductor devices under the electronics sector are the main contributor to the exports for the E&E industry in 2013, with RM111 billion or 47% of the total E&E products exported. The second largest sub-sector is the industrial electronics, comprising 27% of the total investments approved in the E&E sector for 2013 (MIDA, 2013).

Table 2.3: The four sub-sectors of E&E industry in Malaysia

Sectors	Sub-Sectors	Products
Electronics	Components	Semiconductors devices, passive components, printed circuit boards, and other components such as media, substrates and connectors.

	Consumer	Audio visual products such as LED television receivers, blu-ray disc players/ recorders, digital home theatre systems, mini disc, portable multimedia players (PMP), speakers, cameras and electronic games. The sector is represented by many renowned Japanese and Korean companies which have contributed significantly towards the rapid growth of the sector.
	Industrial	Multimedia and information technology products such as computers and computer peripherals, telecommunications products and office equipment.
Electrical	Electrical	Lightings, batteries, solar cells, modules and household appliances such as air-conditioners, refrigerators, washing machines, oven and vacuum cleaners.

Source: Malaysian Investment Development Authority. <http://www.mida.gov.my/>

Most of the E&E multinational companies (MNCs) are from USA, Japan, Europe, Taiwan and Korea which have chosen Malaysia as their base. Companies such as Intel, Western Digital, Freescale, Seagate, First Solar, Texas Instruments, DELL, Advance Micro Devices, Siemens, Bosch, Infineon, Samsung, Hitachi, Sony, Panasonic, and many more are categorised as Original Equipment Manufacturers (OEMs), which are mainly focused on semiconductors, solar and LED technologies (MIDA, 2013).

In the E&E supply chain, the presence of a large number of established OEMs in Malaysia offers a ready market for Electronic Manufacturing Services (EMS) companies. There are more than 50 companies operating as EMS in Malaysia and their areas of expertise including wafer fabrication, IC designs, electronic assembly, packaging & testing, manufacturing parts and components for electrical products,

solar solutions, LED lighting solutions, consumer electrical items, IT parts and other accessories. The presence of leading EMS companies such as Flextronics, Celestica, Jabil, Plexus, Venture and Sanmina-SCI also provides opportunities for local companies to be part of their supply chain by supplying equipment, materials, parts and components, and of course, adhesive products being one of the important materials in their Bill of Materials (BOM) (Merger Alpha, 2014). Figure 2.2 illustrates the supply chain in E&E. OEMs outsource some of the printed circuit board (PCB) assembly jobs to EMSs, and the majority of them have MNC status. At the same time, both will be supported by local SMEs to supply them certain parts, components or accessories at a lower price if they were to get it locally.

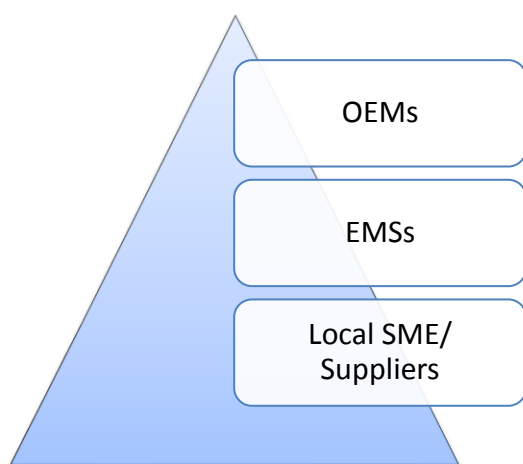


Figure 2.2: The supply chain in E&E ecosystem.

The adhesive products are one of the critical direct materials needed in E&E industry. Due to the different requirements and specification of the semiconductor and electronic sectors, hence different adhesives are used for various applications. (Refer to Table 2.4)

Table 2.4: The application of adhesive in E&E industry

Application	Description
Die attach	Process of attaching a die (or chip) to a substrate, package or another die, which is deposited with small dot of adhesive.
Encapsulant	Use adhesive as protective materials to completely embed electronic circuitry, to isolate the circuits from moisture and other contaminants, provide electrical insulation for high voltages and protect the circuit from thermal and mechanical stresses.
Surface Mount Adhesives (SMA)	An adhesive used to bond planar electronic components on a printed circuit board temporary prior to wave soldering operation.
Flip Chip/ BGA Underfill	An electrically-insulating adhesive is used to fill the gap between the die and substrate, to provide a stronger mechanical connection.
Conformal coating	Apply a thin insulating coating adhesive to provide mechanical and chemical protection of delicate components on printed circuit boards.
Glob-top	Glob-top is a variant of conformal coating used in chip-on-board assembly (COB). It consists of a drop of specially formulated adhesive deposited over a semiconductor chip and its wire bonds, to provide mechanical support and exclude contaminants such as fingerprint residues which could disrupt circuit operation.

Potting	To immerse the part or PCB in a liquid resin, sometimes used as an alternative to impregnation. It's usually a dielectric adhesive used for large electrical equipment such as utility transformers, to increase voltage breakdown or to improve heat transfer.
---------	---

Malaysia E&E industry has certainly come a long way over the last 40 years, and now among the world's largest exporters of semiconductors devices, electronic components and audio-visual equipment. The E&E sector will continue to experiencing healthy growth due to the role of technology in our daily lives, hence it attract more and more new adhesive supplier into the R&E ecosystem and supply chain, and Best Chemical is one of them. The adhesives market is driven by changing trends in various end-user segments such as rising demand on transportation (car audio, reverse sensors and Global Positioning System (GPS), growing optical and image sensors market (smartphone, camera and tablets), increasing demand of green products and durable assembly industry (LED, solar panel and energy saving devices), this provides new opportunities for the adhesives market in Malaysia. On the other hand, this also results in the development of newer requirements, improved application and higher expectation of the adhesive performance. Table 2.5 show the adhesive market size and the existing adhesive manufactures according to its applications in Malaysia E&E industry.

Table 2.5: Adhesive Market Size and Main Players

Die attach (RM 65M)	Encapsulant (RM 35M)	SMA (RM 5M)	Underfill (RM 45M)	Conformal coating, Potting & Glob-top (RM 25M)
AIM	Namics	ThreeBond	Nagase	DELO
Henkel	Henkel	Henkel	AIM	Dymax
3M	Dymax	Somar	Henkel	Henkel
Dow Corning	Dow Corning	Koki	Namics	ThreeBond
Epotek	Penchem	Heraeus	Epotek	Dow Corning

Source: Advance Resource Internal Data

3.0 Company Background

Best Chemical was established in August 2007. The founder Mr. Martini, together with three other shareholders who were previously from a Fortune 500 German based company, started up their own local Korean brand of adhesive products. With high ambitions, he aims to form a global leading chemical company, excelling in adhesive technology to support semiconductor packaging and electronic assembly applications. In the same year, the company was awarded the Venture Company Certification status by KIBO. This status is only awarded to small and medium Korean enterprises (SMEs) with excellent breakthrough in technology or innovation in accordance to the Act on Special Measures for the promotion of a Venture Company, and it provides various benefits in tax reduction and financing for SME. The KIBO Technology Fund was established by the Korean government to support technology financing, technology development, the establishment of start-up companies and corporate restructuring (Hong, 2006). With the Venture Company Certification status and the backing of KIBO, Best Chemical managed to obtain USD 1million of financed facilities to support their daily operation and product development activities. In 2008, Best Chemical successfully registered their trademark and in 2009, they achieved a breakthrough in “low temperature curable epoxy” formulation. They then proceeded to register this newly developed patent. From here, the company continued to grow and managed to acquire more customers including two giant Korean-brands; Samsung and LG. The company road-map was shown in Table 3.1.

Table 3.1: History of Company

Year	Company Achievement
2014	Participate in Shanghai International Expo
2012	Perform Collaboration Project Between Industry and University
2011	Expend to Malaysia, Singapore, Thailand and Vietnam
2010	Acquired INNOBIZ
2010	Registered ‘Certification of R&D centre’
2009	Registered patent for “low temperature curable epoxy” formulation
2009	Acquired ISO 9001:2008 and ISO 14001:2004
2008	Received ‘Certificate of Trademark Mark registration’
2008	Received Venture Company Certification by KIBO
2007	Established as Best Chemical Co., Ltd.

Source: Best Chemical Internal Data

3.1 Philosophy for Best Chemical

Best Chemical commits to contribute to the growth of society by creating innovative technologies and products based on the spirit of human respect. These beliefs are rested on three pillars of sustainability: Technology, Customer and Society.

3.2 Vision for Best Chemical

The vision of Best Chemical is “To be a Global Leading Chemical Technology Company in Semiconductor Packaging and Electronics Assembly”. This vision serves as a foundation in every aspect of their business philosophy by portraying

what is needed to be accomplished in order to continue achieving sustainable and quality growth.

3.3 Mission for Best Chemical

Best Chemical aims to achieve the following mission:-

- ❖ To provide material solutions for semiconductor and electronics applications.
- ❖ To offer a comprehensive range of products for semiconductor packaging and electronics assembly applications.
- ❖ To possess innovative technologies in acrylic urethane and epoxy chemistry.
- ❖ Our strengths are in customized R&D, process engineering, technical support and manufacturing for our customers.
- ❖ To ensure consistent product quality and superior technical support no matter where the customers are located.
- ❖ To be responsive and co-operative in meeting the needs of customers and in achieving customer-satisfaction.
- ❖ To achieve Excellence in Chemical Technology!

3.4 Business structures and Organization chart

Being a founder of Best Chemical, Mr. Martini has set a clear direction from the beginning; the company will only focus on Research and Development, and manufacturing of adhesives for the semiconductor and electronics industry. By

doing this, they will possess the upper hand of trade secrets and product quality. Their marketing and distribution channel is fully dependable on their distributors in Korea. This business structure enables Best Chemical to better manage the organization activities and keep the business structure lean and agile (Figure 3.1). From only 4 employees at the beginning of the start-up (shareholders), Best Chemical has grown to 30 employees in 2014. Their sales have grown to USD 4.1 million in 2013.



Figure 3.1: Best Chemical Organization Chart

Sources: Best Chemical Internal Data

In 2011, Mr Martini realized that the industry's trend in Korea is no longer in favour of having R&D and manufacturing plants locally. More world class market leaders such as Samsung, LG, Kia and Hyundai have shifted and established their production plants in Southeast Asia (SEA) which is an emerging market, namely

Malaysia, Thailand, Vietnam, Indonesia, and Myanmar. Best Chemical has to be agile and adaptable to the rapid changes in order to stay competitive in the adhesive industry. Striving to outperform competitors, Best Chemical is forming partnerships and strategic alliances outside of Korea.

Every company that sells products and solutions through channel partnerships is looking for new ways to maximize value from channel sales (Michiels, 2008). Hence, Best Chemical has appointed Advance Resources Sdn. Bhd. to be their strategic alliance in Malaysia (Figure 3.2). At the same time, Mr. Sean has been appointed as the Technical Support Manager to oversee the business activities in SEA. His tasks are including but not limited to providing technical advice to customers and solving technical related issues, supporting his distributors in developing the business and increasing their market share, project management, distributor training and conducting relevant market study to enable feedback of the actual market scenario to headquarters in Seoul.

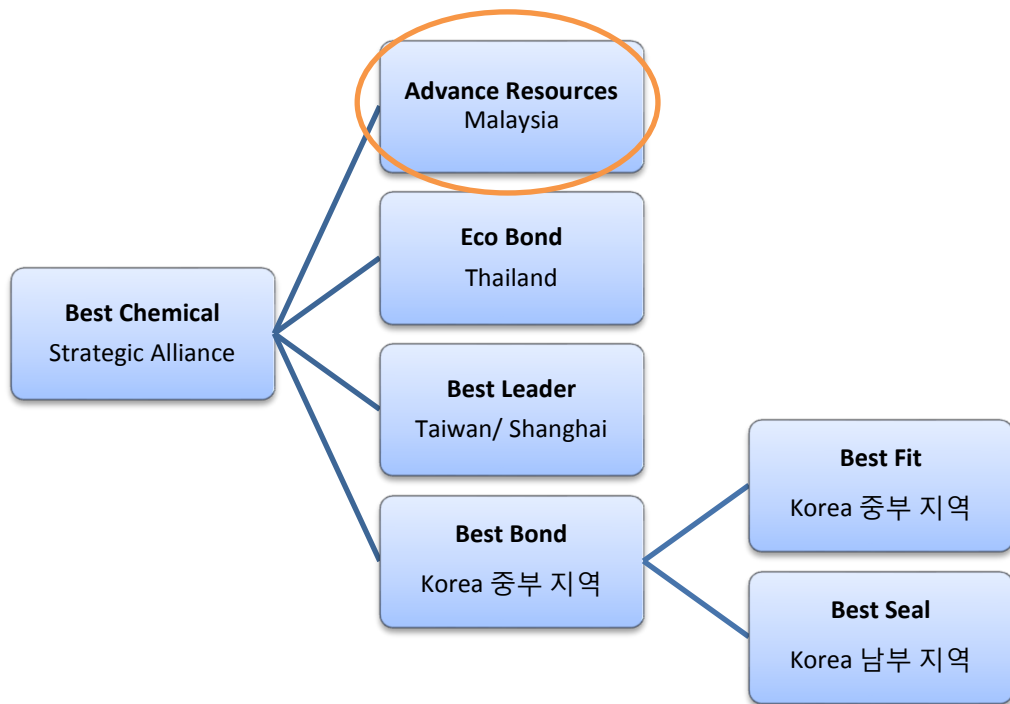


Figure 3.2: Best Chemical Distribution Channel in Korea and South East Asia

Sources: Best Chemical Internal Data

3.5 Communication Efficiency of Strategic Alliances

The collaboration and communication between Best Chemical and Korean distributors is rather convenient because South Korea is well-known by their extensive networks of railways, highways, bus routes, ferry services and air routes across the country. However due to geographical challenge, the support from Seoul to SEA distributors become critical, a proper communication channel is needed to ease the urgent customers' feedback, products sample request, daily activities monitoring and handling of technical problems. Their SEA distributors usually discuss issues or feedback customers' request by phone or through email depending on the type of urgency. To resolve the

distance issue, effective communication among Best Chemical and their strategic alliances is crucial for customer satisfaction (Refer to Figure 3.3). Sometimes, Best Chemical will direct communicate with end customers in order to provide fast respond and get the in-depth of the issue.

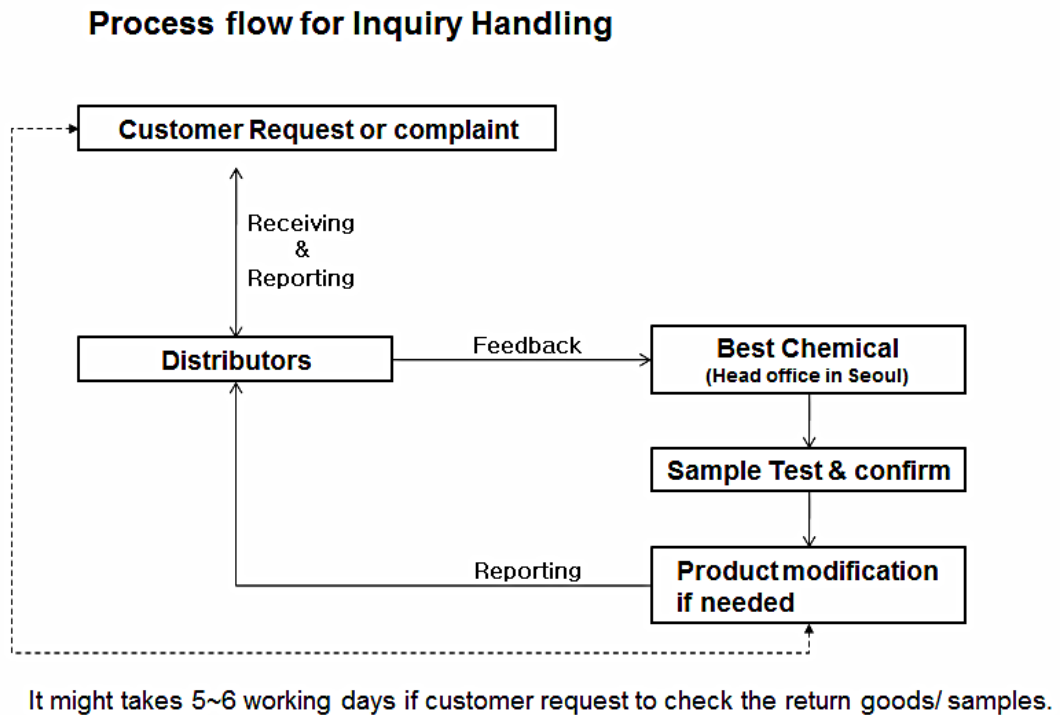


Figure 3.3: Internal Communication between Best Chemical and Distributors

Source: Best Chemical Internal Data

4.0 Details of the Case Issue

In 2007, Mr. Martini and the other three shareholders came out from their comfort zone to begin a start-up. Best Chemical Co., Ltd was formed despite their limited technical knowledge in adhesive chemistry and not having even a single product or a customer base. This was a tough decision and a high risk because their initial capital (from their own savings) for the entire operation, could only last them for approximately 24 months. In addition to this, they were the sole breadwinner for their families.

The consequences seemed unfavourable like a double edged sword. However, the management of Best Chemical took it positively instead to motivate the team to work hard beyond their limits and achieve the aligned vision and mission which is “To be a Global Leading Chemical Technology Company in Semiconductor Packaging and Electronics Assembly”. Two years later, Best Chemical received their first purchase order (PO) that amounted to USD 2000 from their first customer. The value may be small, but their efforts paid off because this PO was issued by the world’s largest Korean based Information and Communications Technology (ICT) company. Since then, business at Best Chemical experienced tremendous growth in their home country, as illustrated in Figure 4.1.